

AMENDMENTS TO THE CLAIMS:

The following listing of claims replaces all prior listings, and all prior versions, of claims in the application.

LISTING OF CLAIMS:

1. - 2. (Cancelled).

3. (Currently amended) The fuel cell assembly of claim 47 18, wherein the thickness of a humidifying water inlet of said humidifier is 1/2 to 3/4 of the thickness of said porous member.

4. (Cancelled)

5. (Currently amended) The fuel cell assembly of claim 47 [[4]], wherein said water permeable membrane is 0.01 to 0.1 micrometer on a mean micro-pore diameter and 10 to 100 micrometers thick.

6. (Currently amended) The fuel cell assembly of claim 47 [[4]], wherein said water permeable membrane has a porosity of 50 to 90%.

7. (Currently amended) The fuel cell assembly of claim 47 [[4]], wherein said water permeable membrane is one or more membranes that are treated to be hydrophilic and are selected from the group consisting of polytetrafluoroethylene, polystyrene, and copolymers of styrene and butadiene.

8. (Currently amended) The fuel cell assembly of claim 48 18, wherein the water-retaining layer of said humidifier has a carbonaceous porous filter.

9. - 10. (Cancelled)

11. (Currently amended) A power generation system comprising an apparatus which produces or stores a hydrogen containing gas and a fuel cell assembly connected to said apparatus with a piping through which said fuel gas flows, wherein said fuel cell assembly of claim 47 18 generates electricity using said fuel gas from said apparatus.

12. (Currently amended) The fuel cell assembly according to claim 47 24, wherein the water-retaining layer has a mean micro-pore diameter of 10 to 300 μm and a thickness of 50 to 300 μm , whereby water is retained by capillary force by said water-retaining layer when the at least one unit fuel cell is not working and is taken by the at least one of the oxidizing gas and the fuel gas against the capillary force, when the at least one unit fuel cell is working.

13. – 16. (Cancelled).

17. (Currently amended) A fuel cell assembly of claim 47, including a plurality of unit fuel cells, each unit fuel cell comprising a cathode, an anode, and a membrane electrolyte placed therebetween, wherein said fuel cell assembly further comprises a

~~humidifier adjoining an end of the plurality of unit fuel cells, to humidify a fuel gas which is fed to said anode and an oxidizing gas fed to said cathode; said humidifier has a~~ wherein the hydrophilic water-retaining layer which has a mean micro-pore diameter of 10 to 300 μm and a thickness of 50 to 300 μm , and is provided to be in contact with the a water permeable layer that faces, said water permeable layer facing flow channels of said fuel gas and said oxidizing gas of said unit fuel cell and has one surface to supply water to said flow channels, whereby water is retained by capillary force by said water-retaining layer when the at least one unit fuel cell is not working and is taken by gas fed to said anode and gas fed to said cathode against the capillary force when the at least one unit fuel cell is working; and water is supplied from only a part of a surface opposite to the water supplying surface and/or from the outer edge of said water-retaining layer.

18. (Currently amended) A fuel cell assembly of claim 48, comprising: a stack of unit fuel cells each having a cathode, an anode and the fuel cell assembly further comprising a membrane electrolyte sandwiched between the cathode and anode, and a humidifier, connected to one end of the stack, for humidifying fuel gas fed to the anode and oxidizing gas fed to the cathode,

wherein a water-retaining layer of the humidifier is disposed to adjoin a water permeable layer that faces gas flow channels of the stack to humidify at least one of the fuel gas and oxidizing gas and the membrane electrolyte, the water-retaining layer being is made of a hydrophilic porous member having a mean micro-pore diameter of 10 to 300 μm and a thickness of 50 to 300 μm , whereby water is retained by capillary force by said water-retaining layer when the stack of unit fuel cells is not

working and is taken by gas fed to said an anode of said unit fuel cell and gas fed to said a cathode of said unit fuel cell by means of said water permeable layer against the capillary force when the stack of unit fuel cells cell is working, said water-retaining layer being communicated with a channel containing the water flow channel by means only of a porous humidifying water inlet means.

19. (Cancelled)

20. (Currently amended) The fuel cell assembly according to claim 47 18, having at least two water retaining water-retaining layers.

21. (Currently amended) The fuel cell assembly according to claim 48 8, wherein said a carbonaceous porous filter controls flow rate of water to the water-retaining layer.

22. (Cancelled)

23. (Currently amended) The fuel cell assembly according to claim 47 22, wherein said water-retaining layer is a polypropylene non-woven cloth or a polyethylene-polypropylene non-woven cloth that is made hydrophilic.

24.- 28. (Cancelled)

29. (Currently amended) The fuel cell assembly according to claim 47, 25.

wherein the water-retaining layer takes water thereinto at a peripheral portion thereof, where the water-retaining layer is in contact with cooling water.

30. – 31. (Cancelled)

32. (Currently amended) The fuel cell assembly according to claim 47 24, said fuel cell assembly having a single humidifier.

33. (Currently amended) A fuel cell assembly comprising a humidifier and a plurality of fuel cell units, wherein each of the fuel cell units comprises an electrolyte membrane, a cathode adjacent to one face of the membrane, an anode adjacent to the other face of the membrane, a gas diffusion layer adjacent to the cathode, a gas diffusion layer adjacent to the anode, a separator having a flow channel on one face thereof for flowing oxidizing gas, which is adjacent to the cathode, and a separator having a flow channel for flowing fuel gas, which is adjacent to the anode, wherein the humidifier comprises a porous water-retaining layer for retaining water supplied thereinto, wherein the water-retaining layer is made of a hydrophilic polymer material, said porous water-retaining layer being in communication with a channel containing water by way of a filter for passing water, but not gas, said channel containing water exclusively supplying water to the water-retaining layer, supplying water thereto via the filter, wherein the water-retaining layer communicates with the channel containing water only by way of the filter, which is disposed at a position where the cooling water inlet and the water-retaining layer communicate with each

other, wherein the water-retaining layer takes water thereinto at a peripheral portion thereof, where the water-retaining layer is in contact with cooling water, and wherein the humidifier adjoins an end of the plurality of the fuel cell units in such a relation that the water-retaining layer faces the flow channels thereby to transfer water introduced into the water-retaining layer to the fuel gas and/or oxidizing gas flowing in the flow channels, the flow channels for flowing gases being partitioned with a wall from the channel containing water.

34. - 39. (Cancelled)

40. (Previously presented) The fuel cell assembly according to claim 33, said fuel cell assembly having a single humidifier.

41. (Currently amended) The fuel cell assembly according to claim 47 48, wherein the water-retaining layer comprises a hydrogen oxidation catalyst dispersed in a porous member.

42. (Currently amended) The fuel cell assembly according to claim 48 22, wherein the water-retaining layer comprises a hydrogen oxidation catalyst dispersed in a porous member.

43. (Currently amended) The fuel cell assembly according to claim 33 24, wherein the water-retaining layer comprises a hydrogen oxidation catalyst dispersed in a porous member.

44. - 45. (Cancelled)

46. (Currently amended) The fuel cell assembly according to claim 33 48, wherein said filter porous humidifying water inlet means is a porous carbonaceous filter.

47. (New) A fuel cell assembly comprising:

a unit fuel cell comprising an MEA;

a humidifier comprising:

a water-retaining layer for retaining water therein, said water-retaining layer being made of hydrophilic porous material,

a water permeable layer in face-to-face contact with said water-retaining layer for humidifying gas in the gas channel of a separator, said water permeable layer being made of a hydrophilic porous material that passes water, but not gas;

the separator having a gas channel facing said water permeable layer on one face and facing the unit fuel cell on the other face; and

a holder for holding peripheries of the water-retaining layer, water permeable layer, separator and unit fuel cell, wherein the holder, which is partitioned from a gas flow channel with a wall member, is provided with a water flow channel therein to exclusively supply water to the water-retaining layer.

48. (New) A fuel cell assembly comprising:

- a unit fuel cell comprising an MEA; and
- a humidifier comprising:
 - a water-retaining layer for retaining water therein, said water-retaining layer being made of hydrophilic porous material;
 - a separator having a gas channel facing a water permeable layer on one face and facing the unit fuel cell on the other face;
 - a filter made of a hydrophilic porous material being disposed between a water channel and the water-retaining layer;
 - a holder for holding peripheries of the water-retaining layer, water permeable layer, separator and the unit fuel cell, wherein the water-retaining layer supplies water to gas passing in the gas channel to humidify it, and wherein the holder, which is partitioned from a gas flow channel with a wall member, is provided with the water channel therein to exclusively supply water to the water-retaining layer, supplying the water thereto via the filter.